Title (en)

LITHIUM BATTERY SOC ESTIMATION METHOD AND APPARATUS, AND COMPUTER-READABLE STORAGE MEDIUM

Title (de)

VERFAHREN UND VORRICHTUNG ZUR SCHÄTZUNG DES LADESTATUS EINER LITHIUMBATTERIE UND COMPUTERLESBARES SPEICHERMEDIUM

Title (fr)

PROCÉDÉ ET APPAREIL D'ESTIMATION D'ÉTAT DE CHARGE DE BATTERIE AU LITHIUM, ET SUPPORT DE STOCKAGE LISIBLE PAR ORDINATEUR

Publication

EP 4113139 A4 20231108 (EN)

Application

EP 22773375 A 20220317

Priority

- CN 202111215850 A 20211019
- CN 2022081476 W 20220317

Abstract (en)

[origin: EP4113139A1] The present application relates to the technical field of SOC estimation of a lithium battery, and discloses a method, device and computer readable storage medium for estimating SOC of a lithium battery. State data and corresponding SOC values of lithium batteries under different working conditions are collected to establish a sample set, and clustering analysis is performed on the sample set to obtain a plurality of sample subsets; then a corresponding sub-model is established for each of the sample subsets to obtain sub-model functions of the plurality of sample subsets; next, the state data of a sample to be tested is respectively added into the state data of each of the sample subsets to calculate a change value of the state data of each of the sample subsets before and after the adding operation, and at least one sub-model close to the sample to be tested is selected as the selected sub-model according to the change value; and finally, a weight is assigned to the selected sub-model to calculate the SOC value of the sample to be tested. By obtaining the estimated SOC value of the lithium battery in the aforementioned manner, the accuracy and reliability of the estimated SOC value of the lithium battery can be improved.

IPC 8 full level

G01R 31/367 (2019.01)

CPC (source: CN EP US)

G01R 31/367 (2019.01 - CN EP); **G06N 7/01** (2023.01 - US); **H01M 10/443** (2013.01 - US); G01R 31/378 (2019.01 - EP); G01R 31/3842 (2019.01 - EP)

Citation (search report)

- [A] CN 107367693 A 20171121 - HUAIYIN INST TECHNOLOGY
- [A] US 2015362559 A1 20151217 - HAMETNER CHRISTOPH [AT], et al
- [A] US 9244129 B2 20160126 - SAHINOGLU ZAFER [US], et al
- [A] CN 107741568 A 20180227 - UNIV CENTRAL SOUTH, et al
- See also references of WO 2022213789A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4113139 A1 20230104; **EP 4113139 A4 20231108**; CN 113655385 A 20211116; CN 113655385 B 20220208; JP 2023520970 A 20230523; JP 7450741 B2 20240315; US 2023118702 A1 20230420; WO 2022213789 A1 20221013

DOCDB simple family (application)

EP 22773375 A 20220317; CN 202111215850 A 20211019; CN 2022081476 W 20220317; JP 2022549542 A 20220317; US 202217893416 A 20220823